Screening Report for Appropriate Assessment

Proposed Residential Development

Rathmullan Road,

Drogheda,

Co. Meath

September 2025

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LIMITATIONS

This report represents the results of an Appropriate Assessment Screening Report for the above referenced site. Best practice was followed at all times and within the limitations stated, works were undertaken according to budgetary considerations. This report is the property of Verde Environmental Consultants Limited (Verde) and cannot be used, copied, or given to any third party without the explicit prior approval or agreement of Verde.

This report represents an assessment of the site and was performed in accordance with generally accepted standards regarding environmental assessments. Verde makes no other representations whatsoever, including those concerning the legal significance of its findings or as to other legal matters touched on in this report, including, but not limited to ownership of any property or the application of any law to the facts set forth herein.

1 INTRODUCTION

Verde Environmental Consultants Ltd. (Verde) have been commissioned by Earlsfort Developments Drogheda Limited, to undertake a Screening Report for Appropriate Assessment for a proposed Large-scale Residential Development at Rathmullan, Drogheda, Co. Meath (see Figure 1.1 for the layout of the proposed development).

This Screening Report for Appropriate Assessment forms Stage 1 of the Habitats Directive Assessment process and is being undertaken in order to comply with the requirements of the Habitats Directive Article 6(3). The function of this Screening Report is to determine if it can or cannot be excluded, on the basis of objective information, that the Proposed Development, individually or in combination with other plans or projects, will have a significant effect on a European Site. This Screening Report has been prepared to provide information to the competent authority to assist them in their determination as to whether a Stage 2 Appropriate Assessment is required for the Proposed Development.

1.1 Site Location and Setting

The Proposed Development site is located to the west of the town of Drogheda, and lies on lands adjacent to the east of the M1 highway. The River Boyne lies to the north of the proposed development site, with the Rathmullen Road forming the eastern and northern boundaries of the development site. The landscape surrounding the development site are peri-urban in nature. Residential housing estates lie to the east of the site, whilst the landscape to the south and west of the site are dominated by agricultural lands. Similarly, the landscape along the northern bank of the River Boyne are a mixture of natural habitats and agricultural lands.

Figure 1.1 and 1.2, below, provide any overview of the location and landscape setting of the proposed development site.

Figure 1.1 Location of the Proposed Rathmullan Development, Co. Meath.

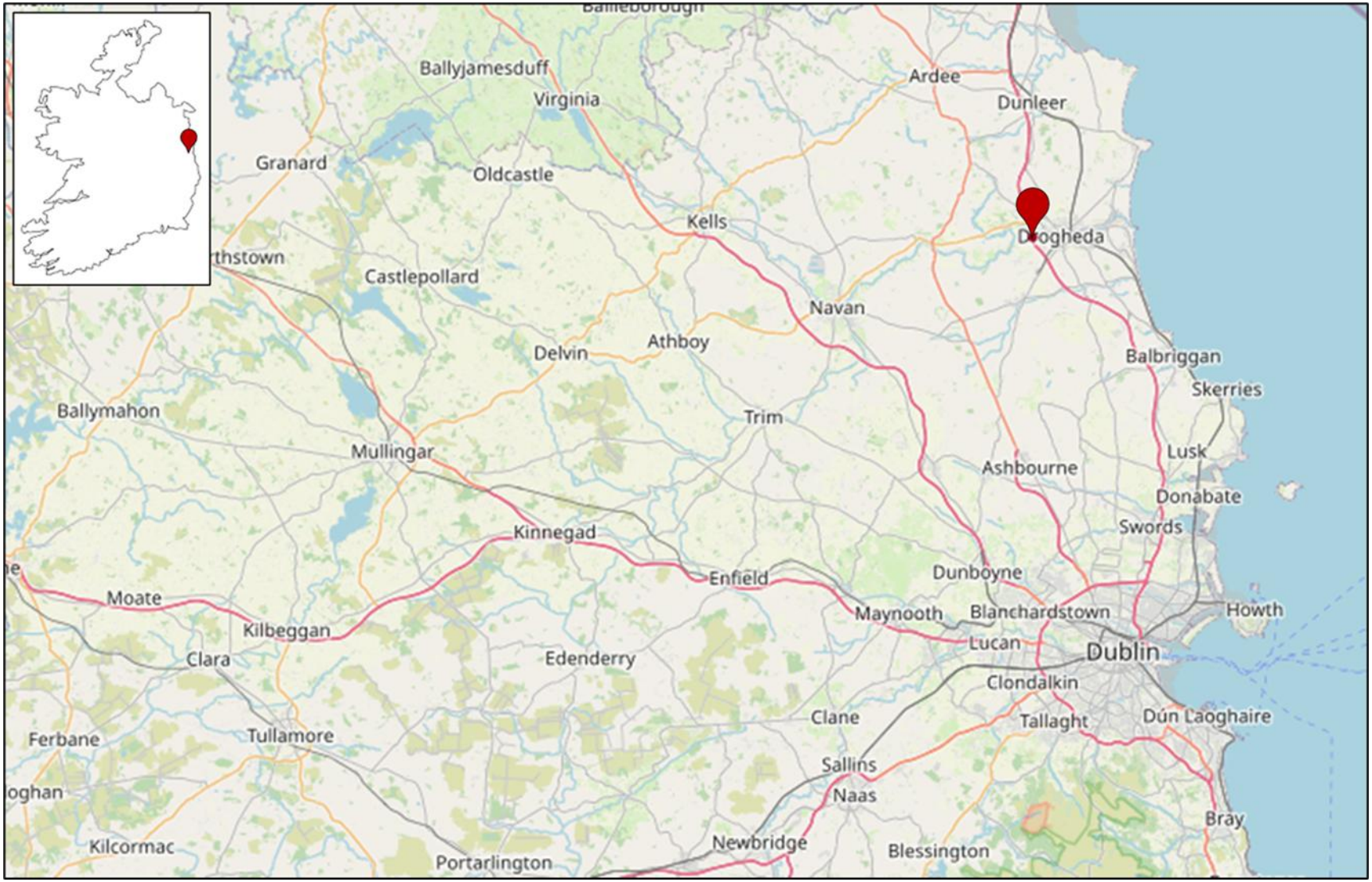


Figure 1.2 Layout of the Proposed Rathmullan Development, Co. Meath

2 PROPOSED DEVELOPMENT DESCRIPTION

2.1 Overview

The proposed development consists of (i) demolition/removal of all existing farm buildings/structures and associated hard standing on site; (ii) construction of a large-scale residential development (LRD) of 249 no. units comprising 170 no. two-storey houses (including 37 no. two-bedroom houses, 111 no. three-bedroom houses and 22 no. four-bedroom houses), 16 no. three-storey duplex buildings (accommodating 16 no. one-bedroom and 16 no. two-bedroom units) and a mix of 8 no. three-storey and 3 no. four-storey apartments blocks accommodating a total of 22 no. one-bedroom and 25 no. two-bedroom apartments); (iii) construction of a new vehicular entrance and access road off Rathmullan Road with associated junction works and associated internal access road network with pedestrian and cyclist infrastructure; (iv) provision of a three-storey creche facility (411sq.m) with external play areas at ground and second floor levels and vehicular/bicycle parking area; and, (v) all ancillary site and infrastructural works, inclusive of removal of existing vehicular entrances, general landscaping and public open space provision, vehicular parking provision (396 no. spaces in total), bicycle parking, boundary treatments, foul/surface water drainage, attenuation areas, provision of a pumping station and provision of an ESB substation, as necessary to facilitate the proposed development.

Each house will be served by vehicular parking to the front and private amenity space in the form of a rear garden. Each duplex building will be served by vehicular parking to the front and private amenity space in the form of balcony/terrace spaces to the rear. Each apartment block will have shared access to adjoining car parking bays with communal amenity space and bicycle/bin stores provided to the rear and each apartment will be provided with private amenity space in the form of a balcony or terrace. The development includes provision of a landscaped area of public open space to the north of the site, with 2 no. pedestrian/cyclist connections (via the northern/eastern site boundaries) to Rathmullan Road which will be subsequently ceded to Meath County Council.

2.2 Surface Water Management

2.2.1 Introduction

It is proposed that the surface water from the Proposed Development shall drain via gravity and discharge at a restricted rate into the existing 1200mm culvert adjacent to Rathmullan Road at the northeast of the site. This culvert merges into a ditch on the opposite side of the existing road 120m to the north of the proposed outfall location. The ditch travels for c. 60m northwards before outfalling into the River Boyne which is tidal at this location.

Runoff will be restricted to the equivalent of the existing greenfield runoff and excess stormwater will be attenuated on-site. Surface water runoffs will be restricted through the incorporation of hydrobrakes or similar infrastructure.

The surface water strategy is outlined in the below sections. The surface water network for the subject site has been divided into 2 no. catchments, the Northern Catchment, and the Southern Catchment. Both catchments will operate in series with runoff from the Southern Catchment flowing into the downstream Northern Catchment area at a restricted rate and outfalls into the existing 1200m surface water culvert/open drain adjacent to the Rathmullan Road.

The rainfall runoff for the development will be limited to the equivalent of the existing agricultural runoff rate (Qbar). The greenfield runoff rate for the site has been calculated using the Institute of Hydrology report No 124 "Flood Estimation for Small Catchments". The attenuation storage for the Southern Catchment has been sized to accommodate a Qbar runoff rate for the Southern Catchment of 10.70l/s, while this figure is 11.23l/s in the case of the Northern Catchment. Surface water runoff will be restricted via hydrobrakes which will be installed at the outfall manhole of each water catchment with excess storm water attenuated in grass detention basins with Stormtech tanks below, or similar approved. It is noted that a hydrobrake will be installed at the Northern Catchment outfall (where it drains to the existing culvert on Rathmullan Road) and that this will result in a restricted overall runoff rate of 21.93l/s (sum of Southern and Northern Catchments).

Additionally, sustainable urban drainage systems have been implemented within the Proposed Development to ensure that the runoff quality and rate are managed in accordance with the recommendations of the Greater Dublin Strategic Drainage Scheme, GDSDS.

2.2.2 Surface Water – General

Sustainable Urban Drainage systems (SUDS) have been developed and are in use to alleviate the detrimental effects of traditional urban storm water drainage practice that typically consisted of piping runoff of rainfall from developments to the nearest receiving watercourse. Surface water drainage methods that take account of quantity, quality and amenity issues are collectively referred to as sustainable urban drainage systems; they are typically made up of one or more structures built to manage surface water runoff.

The proposed surface water drainage system for this development has been designed as a sustainable urban drainage system and uses, water butts, permeable pavement, grass swales and attenuation storage together with flow control device and petrol interceptors to:

- Treat runoff and remove pollutants to improve quality
- Restrict outflow and to control quantity
- Increase amenity value

Strict separation of surface water and wastewater will be implemented within the development. Drains will be laid out to minimise the risk of inadvertent connection of waste pipes, etc. to the surface water system.

Surface water local drains will be 150 mm to 225 mm and generally will consist of PVC (to IS 123) or concrete socket and spigot pipes (to IS 6). These drains will be laid to comply with the Requirement of the Building Regulations 2010.

Surface water public sewers will be 225 mm to 750 mm and generally will consist of PVC or concrete socket and spigot pipes (to IS 6) and will be laid strictly in accordance with the requirements of Meath County Council.

2.2.3 Storage

The site has been sub-divided into two catchments in terms of surface water management, the Northern Catchment, and the Southern Catchment. The total impermeable area including roads, footpaths, carparking and roofs is approximately 3.299Ha.

Excess stormwater shall be attenuated in an attenuation tank combined with a detention basin, which provides c. 1311.35m^3 of storage to cater for the northern catchments. While for the southern catchment, the excess stormwater will be attenuated in an attenuation system which combines with an overground detention basin and an underground attenuation storage to give a total storage of c.1,110.4m^3 as calculated.

2.2.4 Sustainable Urban Drainage System (SUDs) Selection Criteria

The SUDS selection process used for this site is in accordance with SUDS selection flow chart, Volume 3, Section 6.5, Figure 48 of the GDSDS. The characteristics of the site are utilised to select the various SUDS techniques that would be applicable. The applicant has considered the use of all appropriate SUDS devices as part of the site SUDS strategy:

- Water Butts – utilised within each residential unit
- Permeable Pavement
- Swales – utilised in grass verges alongside internal roads
- Grass Detention Basin/Attenuation Storage – located at the green open space areas
- Flow Control Device (e.g. hydrobrake) – installed at the outfall manhole of each catchment
- Petrol Interceptor – installed downstream of each flow control device manhole

The effectiveness of each SUDS/drainage mechanism proposed is outlined below:

1. **Water Butts:** It is proposed to provide water butts for the individual dwellings for external gardening and wash down use only, which will ensure interception of roof runoff at source.
2. **Permeable Pavement:** Permeable pavement reduces the overall impermeable area of the hard standing area, which will reduce the impact of the discharge and improve the quality of the effluent from the Proposed Development. Permeable pavement will be provided in private driveway areas. The permeable paving is provided for the purposes of improving the quality of the surface water runoff. No reduction in the rate of run-off as a result of the permeable paving provision is allowed for in the surface water calculations which assumes the system is in a saturated state.
3. **Swales:** Roadside swales have been incorporated in the grass verges where appropriate throughout. The swales incorporate an infiltration trench at the invert of the swales which will encourage surface water to drain direct to ground as recommended by SUDS. Any remaining water which does not filtrate direct to ground will drain to the surface water network.
4. **Grass Detention Basin/Attenuation Storage:** The system attenuates surface water to restrict the outflow to the equivalent of the existing agricultural runoff. This ensures the development will not give rise to any impact downstream of the site.

5. **Flow Control Device:** It is proposed to provide a hydrobrake, or similar approved, at the outfall of each surface water catchment to restrict the outflow of water from the subject site. The hydrobrakes will be fitted with a pull cord bypass and a penstock valve installed on the inlet to the manhole for maintenance purposes.
6. **Petrol Interceptor:** It is proposed to provide a petrol interceptor prior to each outfall into the attenuation in order to ensure primary treatment of any pollutants. It is proposed to provide a Klargestor Bypass Separator Type NSP003 or similar approved.

In conclusion, the water quality from this catchment should be of a high quality due to the above-mentioned measures, which are applied in a treatment train to treat the water before discharge at a restricted rate to the local network. The above measures ensure a suitable management train is provided.

Management Train: The management train commences with source control through the provision of water butts and draw off taps in each dwelling for external reuse only. This will also reduce the water consumption required of each housing unit.

The second stage of the management train, site control, is provided by the introduction of permeable pavement and swales, all of which provide a degree of treatment before discharging to the proposed surface water network and detention basin. The rate of runoff is controlled through the provision of a flow control device installed in the outfall manhole of each surface water catchment.

The underground attenuation offers a third stage of treatment, regional control, by slowing the storm water discharge down, promoting infiltration and removing additional silts which may remain in the storm water.

2.3 Wastewater management

It is proposed that the foul sewerage from the site will drain via a new network of gravity sewers to a new pumping station located at the low point in the northeastern corner of the subject site. Foul water will be pumped from the new pumping station and connect to the existing 110mm diameter rising main on Rathmullan Road to the east of the subject site. This will require c.300m of new 110mm rising main below the internal estate roads and a section of Rathmullan Road. Ultimately this foul water discharges into the existing gravity sewer network on Marley's Lane c. 900 m east of the subject site. Foul drainage eventually outfalls to the Drogheda Wastewater Treatment Plant.

2.3.1 Irish Water Pre-Construction Enquiry

Two pre-connection enquiries (PCEs) were submitted to Uisce Eireann each for 99 no. residential units based upon the development being constructed in two phases (CDS23000770 & CDS23000784). Confirmations of feasibility (CoFs) for 198 no. residential units have been received. Based on the two CoFs received, a PCE that covers for 240 no. residential units was sent to the Uisce Eireann in November 2024, CDS24009836. Confirmation of feasibility was received on 26th April 2025.

The proposed pumping station will pump wastewater to the existing foul water drainage network at the junction of Rathmullan Road/Marley's Lane. There is an existing rising main along the Rathmullan Road which runs from the entrance of the Proposed Development to Marley's Lane. Uisce Eireann have indicated in their CoF that this existing rising main could be utilised for the Proposed Development. The proposed new pumping station will be designed to facilitate flows from the adjacent Riverbank and Oldbridge Manor Developments

2.4 Foul Water – General

Foul water sewers within the Proposed Development will be laid to comply with the requirements of the Building Regulations, and in accordance with the recommendations contained in the Technical Guidance Documents, Section H of the Engineering Assessment Report, provided under separate cover with the planning application documentation.

Foul water sewers which will be taken into charge will be laid strictly in accordance with Irish Water's requirements for taking in charge. In accordance with the Irish Water *"Code of Practice for Wastewater Supply*", 150mm nominal internal diameter sewers have been proposed for carrying wastewater from 20 properties or less with 225mm nominal internal diameter sewers carrying wastewater from more than 20 properties. Furthermore, where there are at least ten dwelling units connected, the 150mm diameter pipes are laid at a minimum gradient of 1:60 for up to nine connected dwelling units.

The pumping station has been located with a 20m separation distance from the nearest dwelling. This complies with Section 5.5 of the Irish Water *"Code of Practice for Wastewater Supply"*, which states that Type 3 pumping stations require a minimum buffer zone of 15m.

2.4.1 Foul Water Pumping Station & Preliminary Specification

General

As set out in 2.3.1 above, it is proposed to construct a new pumping station at the northeastern side of the site. The pumping station will be sized to accommodate the Proposed Development. The proposed pumping station will be designed in compliance with the Irish Water Code of Practice and Irish Water Standard Details.

The proposed pumping station has provision for foul water storage from the Proposed Development with a total capacity of 261m^3 which has sufficient storage to cater the foul.

Emergency Storage

The total volume of storage available in the pump sump to this level is c.10.828m^3 with a further 268.76m^3 available in the adjacent storage tanks.

In addition, there is storage available in the foul water manholes and sewers.

At 3.154l/sec (1*DWF) the total volume required to be stored in a 24-hour period is 268.76m^3, which is less than the emergency storage available.

Emergency Equipment & Procedures

The pumping station is being provided with the following emergency equipment and procedures:

- Standby pump in the event of a pump failure
- Telemetry system to facilitate Irish Water monitoring of the station
- High level alarms to warn of increases in level of effluent in the pump sump
- Storage capacity within the sump and pipe network in excess of 24 hours
- Over-pumping facilities on the rising main to facilitate the installation of a temporary external pump to empty the sump directly into the rising main

The above emergency equipment and procedures provide a very high level of redundancy and backup in the event of a failure in the mechanical systems in the pumping station.

2.5 Water supply

Water supply to the subject site will be provided via a new proposed connection to the existing 150mm HPPE watermain on Rathmullan Road to the east of the site. All water supply details shall be in accordance with Irish Water requirements. Please refer to Waterman Moylan Drawing No's. 18-014-P481&P482-Water Supply Layout -Rev A, provided under separate cover with the planning application documentation, for details of the watermain layout to serve the subject site.

2.5.1 Irish Water Pre-Connection Enquiry

Two pre-connection enquiries (PCEs) were submitted to Uisce Eireann each for 99 no. residential units based upon the development being constructed in two phases (CDS23000770 & CDS23000784). Confirmations of feasibility (CoFs) for 198 no. residential units have been received. Based on the two CoFs received, a PCE that covers for 249 no. residential units was sent to Uisce Eireann in November 2024, CDS24009836. Confirmation of feasibility was received on 26th April 2025.

According to the previous CoF received, Uisce Eireann have identified that there are some upgrades to be carried out to facilitate the Proposed Development. Water supply to the subject site will be connected to the existing 150mm watermain which is to be upgraded to 200mm diameter on the Rathmullan Road. c. 140m of existing 150mm diameter watermain needs to be upgraded to 200mm diameter along Rathmullan Road. There is also a requirement for c.50m new 450mm diameter watermain together with a new flow control valve. All upgrade works will be carried out by Uisce Eireann as part of the connection agreement. All water supply details shall be in accordance with Irish Water requirements. Please refer to Waterman Moylan drawing No. 18-014-P481&P482- Water Supply Layout -Rev A for the proposed watermain network layout

2.5.2 Water Supply – General

Water mains suitable for works and approved by Irish Water shall be either ductile iron (DI) or polyethylene (PE), with PE80 or PE100 rating (MDPE, HDPE or HPPE).

The minimum depth of cover from the finished ground level to the external crown of a water main shall be 900mm. A greater depth of cover and/or greater strength pipe and/or a higher class of bedding may be required where high traffic loading is anticipated. Depths may be altered to avoid obstructions, including separation distances between other utility services. The desirable maximum cover for a service connection pipe or a water main should be 1200mm, where practicable.

Sluice valves will be provided so that no more than 40 houses can be isolated at any time and hydrants provided so that each part of the dwellings are within 46m of a hydrant.

2.6 Transport

2.6.1 Traffic & Transport Assessment

The threshold for residential developments for which a Traffic Assessment is required (as set out in the Department of Transport Traffic Management Guidelines) is a development in excess of 200 no. units. A separate Traffic and Transport Assessment has been carried out for the development and is included in this application under separate cover and should be read together with this report.

2.6.2 Parking Provision

Section 11.9 of the Meath County Development Plan 2021-2027 (MCDP) sets out the maximum car parking standards for various development categories. The car parking spaces provided with the Proposed Development area are set out in Table 2.1 below.

Table 2.1 Car Parking Permitted and Provided.

Prop. Dev.	No. Units	Residential Ratio	Visitor Ratio	Residential Total Proposed	Visitor Total Proposed	Residential Total MCDP Requirement	Visitor Total MCDP Requirement
2-bed houses	37	1	-	37	-	74	-
3-bed houses	111	2	-	222	-	222	-
4-bed houses	22	2	-	44	-	44	-
1-bed apartments	22	1	0.25	22	12	44	12
2-bed apartments	25	1		25		50	

1-bed duplexes	16	1	-	16	-	32	-
2-bed duplexes	16	1	-	16	-	32	-
Creche	10 no. staff	0.4 staff	-	4	-	10	12
Total	249 units	-	-	386	10	508	24

2.7 Landscaping

A landscape masterplan has been prepared for the Proposed Development and is provided under separate cover with the planning application documentation. The landscape masterplan provides for the enhancement of woodland habitats to the north and east of the Proposed Development site as well as providing meadow habitat and standard tree planting throughout the site.

2.8 Lighting

Public lighting will be provided as part of the Proposed Development. The extent of the public lighting to be provided is described in detail in the Public Lighting Report, provided under separate cover with the planning application documentation. The lighting contour is located well outside of the River Boyne and River Blackwater SAC to the north and woodland habitats and proposed woodland habitats that will be provided as part of the landscape masterplan for the Proposed Development.

2.9 Construction phase

2.9.1 Designated Storage Area & Site Compound

At least one temporary site compound, including offices and welfare facilities, will be constructed by the main contractor in a location or locations to be decided within the subject site.

The main contractor will be required to schedule delivery of materials on a daily basis. The main contractor shall use the constructed site compound(s) on the site for the secure storage of materials.

Prevention and mitigation measures will be implemented throughout the construction stage to prevent contamination of the soil and adjacent watercourses from oil and petrol leakages and significant siltation. Suitable bunded areas will be installed for oil and petrol storage tanks. Designated fuel filling points will be put in place with appropriate oil and petrol interceptors to provide protection from accidental spills. Spill kits will be provided by the main contractor to cater for any other spills.

2.9.2 Deliveries & Site Access

Deliveries and access to the construction site will typically be made via the Rathmullan Road to the east of the site. Construction traffic will not be permitted to use the River Road to the north of the site or the local Sheephouse Road to

the south of the site as these would be considered unsuitable for construction traffic. Haul roads for construction traffic purposes will generally be 6.0m wide and will be constructed using 300mm minimum capping layer material (clean broken stone).

In the event that large concrete pours are required which may result in congestion at the entrance to the site the deliveries will be organised such that concrete trucks will queue at a pre-determined staging point (such that they do not cause an obstruction to general traffic in the area) and will then be called in by radio as appropriate to the site, via a pre-determined route and to the required access gate. Set procedures and designated wash-out areas will be provided. All delivery vehicles will be co-ordinated as required at the relevant access point.

2.9.3 Working Hours for Construction Works

Working hours for the Construction Phase will be between 08.00 and 17.00 Monday to Friday. Special construction operations may occasionally need to be carried out outside typical working hours in order to minimise disruption to the surrounding area. Weather restrictions may apply, e.g. no cement pouring during heavy rainfall. These restrictions shall be determined by the Proposed Development ecologist taking into account pertaining environmental factors on site.

2.10 Plant and Equipment

The amount of plant, equipment and labour at the site will be proportional to the extent of the activity underway at any one time. Typical plant and equipment for use is expected to include the following:

- 13 tonne excavator(s)
- 6t dumper truck(s)
- Teleporter(s)
- Cement mixer(s)
- Tractor/trailer(s)
- Bulldozer/Grader(s)
- Telescopic Handler(s)
- Compactors/loader(s)
- Pile driver(s)
- Crane(s)

A full inventory of specific plant and equipment will be supplied by the Contractor upon appointment and the Construction Environmental Management Plan (CEMP) will be updated accordingly.

3 METHODS

3.1 Desktop Assessment

Sources of data reviewed as part of the Screening process for this Proposed Development included:

- National Parks and Wildlife Service (NPWS); site synopses and conservation objectives for relevant European sites (accessible at https://www.npws.ie/)
- Birds of Conservation Concern, Ireland (BoCCI). Specifies list of bird species outlines for conservation efforts 2020-2026 (accessible at https://birdwatchireland.ie/birds-of-conservation-concern-in-ireland/)
- National Biodiversity Data Centre (NBDC) – 1km- and 2km-square species reports (accessed online on 02/08/2023)
- The status of EU Habitats and Species in Ireland 2013, NPWS, ed. D. Lynn
- Article 17 Reports (NPWS, The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview., 2019)
- GIS spatial data

3.2 Development Site Habitat Assessment

A range of scientific field surveys have been completed at the Proposed Development site. These field surveys were scientific field surveys completed between 2021 and 2025 for the Proposed Development and for a previous planning application on lands within and surrounding the Proposed Development site.

A general assessment of the site was carried out by Verde ecologist Dr. Jeff Hean on the 17th June 2025. The site assessment was in line with the Heritage Council's Best Practice Guidance for Habitat Survey and Mapping (Smith et al., 2011) and habitats were classified to level 3 of the Fossitt (2000) classification system. To illustrate the general habitat quality, photographs were taken using a digital camera. Grid references were recorded using a GPS handset. Site evaluation is based on the guidelines of the Chartered Institute of Ecology and Environmental Management (CIEEM 2018).

The site and immediate surroundings were inspected for the presence of invasive species, as listed in the First Schedule of the Birds and Natural Habitats Regulations (S.I. No. 477/2024). Regulation 49 (2) states that "any person who plants, disperses, allows or causes to disperse, spreads or otherwise causes to grow in any place any plant listed in the Third Schedule, shall be guilty of an offence".

The determination of the presence or absence of Annex I habitats was carried out in consultation with the habitat descriptions provided in the most recent Article 17 Reports (NPWS, The Status of EU Protected Habitats and Species in Ireland. Volume 1: Summary Overview., 2019). The Interpretation Manual of European Union Habitats (EUR 28, April 2013) was also consulted. In addition, the spatial GIS data for the Article 17 Reports were examined to determine the distribution of these habitats (as known to the NPWS) within the study area.

All surveys were completed by qualified specialists and in accordance with relevant legislation and guidance , particularly the "Guidelines for Ecological Impact Assessment in the UK and Ireland" (CIEEM, 2018) through the additional recording of specific features indicating the presence, or likely presence, of protected species or other species of nature conservation significance.

3.3 Key Ecological Receptors

A search for field signs indicating the presence of non-volant mammals within and adjacent to the Proposed Development site was completed on the 24th May, 10th June, 28th July 2022, 9th February 2023, and 10th April 2025. These field signs, as described in Neal & Cheeseman (1996) and Bang & Dahlstrom (2006), include:

- Mammal breeding and resting places, such as setts, holts, lairs
- Pathways & prints
- Faecal deposits & latrines (and dung pits used as territorial markers)
- Feeding signs (snuffle holes)
- Hair
- Scratch marks

The surveys for non-volant mammals were completed after periods of dry weather when field signs were more likely to be present.

3.4 Zone of Influence (ZoI)

The 'zone of influence' for a project is defined as "*the area over which ecological features may be affected by biophysical changes because of the proposed project and associated activities. This is likely to extend beyond the project site, for example where there are ecological or hydrological links beyond the site boundaries*" (CIEEM, 2019). Subsequently, the zone of influence will vary for different ecological features depending on their sensitivity to an environmental change (CIEEM, 2018).

Irish guidance (DoEHLG, 2010) states "*for the zone of influence, a distance of 15 km is currently recommended in the case of plans derives from UK guidance (Scott Wilson et al, 2006)*". The guidance goes on to state that "*for projects, the distance could be much less than 15 km, and in some cases less than 100 m, but this must be evaluated on a case-by-case basis with reference to the nature, size and location of the project, the sensitivities of the ecological receptors, and the potential for in-combination effects*." Additionally, a practice note issued by the Office of the Planning Regulator (OPR, 2021) further states that "*The zone of influence of a proposed development is the geographical area over which it could affect the receiving environment in a way that could have significant effects on the Qualifying Interests of a European site. This should be established on a case-by-case basis using the Source-Pathway-Receptor framework and not by arbitrary distances (such as 15 km)*". The zone of influence for this Proposed Development was identified through a review of the nature of the Proposed Development, the type of impacts and effects that could arise as a result, the distance between

the Proposed Development and European sites, the qualifying interests of the European sites, as well as the consideration of the typical movement patterns of these QIs (i.e., sedentary vs highly mobile species).

3.5 Source-Pathway-Receptor (SPR) Model

The likely effects of the Proposed Development on any European site have been assessed using a source-pathway-receptor model, where:

- A 'source' is defined as the individual element of the proposed works that has the potential to impact on a European site, its qualifying features, and its conservation objectives.
- A 'pathway' is defined as the means or route by which a source can affect the ecological receptor.
- A 'receptor' is defined as the SCI of SPAs or QI of SACs for which conservation objectives have been set for the European sites being screened.

Where a source-pathway-receptor link between the Proposed Development and a European site exists and there is a potential negative impact, further assessment is required. In accordance with EC Article 6 Guidance Document (EC, Assessment of plans and projects significantly affecting European sites. Methodological guidance on the provisions of Article 6(3) and (4) of the Habitats Directive 92/43/EEC, 2018), in order to ensure all impacts upon the site are identified, including those direct and indirect impacts that are a result of cumulative impacts, the following steps were completed:

- Identify all projects/ plans which might act in combination: Identify all possible sources of effects from the project or plan under consideration, together with all other sources in the existing environment and any other effects likely to arise from other proposed projects or plans.
- Impacts identification: Identify the types of impacts that are likely to affect aspects of the structure and functions of the site vulnerable to change.
- Define the boundaries for assessment: define boundaries for examination of cumulative effects which will be different for different types of impact and may include remote locations.
- Pathway identification: Identify potential cumulative pathways (e.g., via water, air etc.; accumulations of effects in time or space).
- Prediction: Prediction of magnitude/extent of identified likely cumulative effects.
- Assessment: Comment on whether or not the potential cumulative impacts are likely to be significant.

3.6 Screening assessment of European Sites

This chapter provides a Preliminary Screening Assessment to identify SACs and SPAs to be assessed fully in the Screening of Potential Impacts (Section 7). As per the outcomes of the Judgement in Case C-721/21: Keegan Land Holdings vs. An Bord Pleanála, this screening assessment has been completed with consideration of "*Article 6(3) of Directive 92/43 must be interpreted as meaning that: in order to determine whether it is necessary to carry out an appropriate assessment of the implications of a plan or project for a site, account may be taken of the features of that plan or project which involve the removal of contaminants and which therefore may have the effect of reducing the harmful effects of the plan or*

project on that site, where those features have been incorporated into that plan or project as standard features, inherent in such a plan or project, irrespective of any effect on the site".

3.7 Cumulative and In-Combination Impacts

It is a requirement of screening for Appropriate Assessment that the cumulative or in-combination effects of the Proposed Development together with other plans or projects are assessed. Cumulative impacts can be defined as a project/plan/programme likely to have a significant effect thereon, either individually or in combination with other plans or projects.

In accordance with EC Article 6 Guidance Document (EC 2018), in order to ensure all impacts upon the site are identified, including those direct and indirect impacts that are a result of cumulative impacts, the following steps were completed:

- Identify all projects/ plans which might act in combination: Identify all possible sources of effects from the project or plan under consideration, together with all other sources in the existing environment and any other effects likely to arise from other proposed projects or plans.
- Impacts identification: Identify the types of impacts that are likely to affect aspects of the structure and functions of the site vulnerable to change.
- Define the boundaries for assessment: define boundaries for examination of cumulative effects which will be different for different types of impact and may include remote locations.
- Pathway identification: Identify potential cumulative pathways (e.g. via water, air etc.; accumulations of effects in time or space).
- Prediction: Prediction of magnitude/extent of identified likely cumulative effects.
- Assessment: Comment on whether or not the potential cumulative impacts are likely to be significant.

In accordance with EC Article 6 Guidance Document (OPR), in order to ensure all impacts upon the site are identified, including those direct and indirect impacts that are a result of cumulative impacts, the following steps were completed:

- Identify all projects/ plans which might act in combination: Identify all possible sources of effects from the project or plan under consideration, together with all other sources in the existing environment and any other effects likely to arise from other proposed projects or plans.
- Impacts identification: Identify the types of impacts that are likely to affect aspects of the structure and functions of the site vulnerable to change.
- Define the boundaries for assessment: define boundaries for examination of cumulative effects which will be different for different types of impact and may include remote locations.
- Pathway identification: Identify potential cumulative pathways (e.g. via water, air etc.; accumulations of effects in time or space).
- Prediction: Prediction of magnitude/extent of identified likely cumulative effects.
- Assessment: Comment on whether or not the potential cumulative impacts are likely to be significant

4 RESULTS

4.1 Hydrology & Hydrogeology

The Proposed Development is located approximately 9.6km west of the Irish Sea, with the River Boyne located 40m to the north of the Proposed Development site. The section of the river to the north of the Proposed Development site is within the tidal stretch of the river, which extends west of the Proposed Development site to Grove Island at Oldbridge. The section of the River Boyne upstream and downstream of the Proposed Development site is representative of a transitional waterbody (i.e. it is subject to and influenced by tidal waters). The current water quality of the lower transitional waters of the River Boyne are classed as being of Moderate Status and are of less than Good Status (WFD 2016-2021). Catchments.ie (2025) have identified pressures to this waterbody as relating to agricultural pressures and urban wastewater pressures. Discharges from roads, motorway, other human activities, and agricultural fertilisation have also been identified as sources of threats and pressures to the River Boyne and the River Boyne and River Blackwater SAC and SPA.

4.2 Biodiversity

The Proposed Development site itself is dominated by horticultural land and is dissected and bordered by hedgerows, dry meadows and grassy verges and recolonising bare ground habitats. No watercourses were identified within the subject lands; however, the River Boyne is located directly north of the Proposed Development site and is separated from the lands by the Rathmullan Road.

The Proposed Development site was dominated by arable land (BC1), predominantly barley (*Hordeum vulgare)* crop. It was previously used as horticultural land (BC2) for the production of broad beans *Vicia faba*). This habitat is subject to intensively agricultural management with tilling, nutrient and herbicide application forming part of the management activities. Other habitats occurring within or surrounding the Proposed Development site include dry meadows and grassy verges (GS2), oak-ash-hazel woodland (WN2), hedgerows (WL1), treelines (WL2) occurring in a mosaic with ornamental and non-native scrubs (WS3), recolonising bare ground and tall-herb swamps (GS2)/wet willow-alder-ash woodland (WN6). The Sheephouse Stream, which is a minor stream, is located to the East of the Proposed Development site, along the Eastern side of Rathmullan Road. The majority of the stream is culverted along its channel and only emerges to the North near its confluence with the River Boyne.

The Proposed Development site does not provide suitable habitat for otters. However, the River Boyne to the north of the site is used by otters. A search of the South bank of the stretch of the river to the north of the Proposed Development site during field surveys in January 2022, February 2023 or April 2025 did not indicate the presence of any holts or couches in riparian vegetation along this stretch of the river.

Two mammal entrances were identified in the woodland habitat to the North of the Proposed Development site, between the Proposed Development site redline boundary and the Rathmullan Road. The entrances were identified in an area that appears to be used as informal recreational/social space. The entrances are indicative of a badger sett, however no

definitive evidence indicating the presence of badgers using these entrances was recorded during field surveys (2023 and 2025). The non-native Fallow deer has previously been recorded within the Proposed Development site, whilst there are records for the presence of badger, red squirrel, otter, pine marten, red deer, hare, stoat, and hedgehog for the wider surrounding area.

A range of passerines and other farmland birds occur at the Proposed Development site. This includes blackbird, chaffinch, chiffchaff, dunnock, goldfinch, greenfinch, robin, wren, swallow, wood pigeon and pheasant. A pair of buzzards are present in the area, with a nest site located to the north of the Proposed Development site (to the north of the River Boyne). The red-listed breeding species yellowhammer also occurs to the west of the Proposed Development site, along the linear woodland habitat bounding the eastern side of the M1 motorway corridor.

The habitat occurring at the Proposed Development site, which is representative of bare tilled ground during the winter months provides suitable terrestrial foraging habitat for "terrestrial" wader species, such as lapwing and golden plover.

The River Boyne and River Blackwater SPA is located approximately 250m to the west of the northwest corner of the Proposed Development site boundary. The Boyne Coast and Estuaries SAC and the Boyne Estuary SPA are located downstream along the River Boyne, approximately 5.4km and 4.2km to the east, as the crow flies. The Boyne River Islands pNHA, which overlaps with the River Boyne and River Blackwater SAC, is located approximately 220m to the north of the Proposed Development site.

The River Boyne to the north of the Proposed Development site is known to support populations of Atlantic salmon and lamprey species, all of which are listed as qualifying species of the River Boyne and River Blackwater SAC. There are no records of the presence of white-clawed crayfish occurring along the stretch of the river to the north of the Proposed Development site and the tidal nature of this watercourse at this location also limits its potential to support this species. The nearest records for this species are located a significant distance upstream (> 20 km).

4.3 Source-Pathway-Receptor (SPR) Model

In order to identify European Sites that could potentially be located within the zone of influence (ZoI) of the project, the current digital mapping (shapefile) of European Sites in Ireland[1], as published by the NPWS, was reviewed to identify the European Sites that could conceivably be connected to the Proposed Development site via pathways. During this review, elements of the Proposed Development were identified as occurring within or adjoining one European Site, namely the River Boyne and River Blackwater SAC.

Current guidance informing the approach to screening for Appropriate Assessment defines the zone of influence of a proposed development as the geographical area over which it could affect the receiving environment in a way that could

[1] Current SAC shapefile layer dated April 2022; current SPA shapefile layer dated October 2021

have significant effects on the Qualifying Interests of a European site. It is recommended that this is established on a case-by-case basis using the Source-Pathway-Receptor (SPR) model.

Under the SPR model, the project, the works associated with the construction and the operation of the Proposed Development represent the source of potential impacts. Pathways that can arise as a result of development projects and lead to offsite/downstream impacts are listed below and an appraisal of the potential for these pathways to connect the Proposed Development to European Sites and their qualifying features of interest (which represent the receptors under the SPR model) is also provided:

- Emissions to surface water: In the absence of a suitable design and control measures the Proposed Development will have the potential to result in emissions to surface waters. Where receiving surface waters establish a connection between the Proposed Development and European Sites downstream then a hydrological pathway will be established. EPA sub-catchment and rivers and streams digital baseline mapping was used to identify hydrological pathways between the Proposed Development and European Sites. The potential for surface water hydrological pathways to function as an impact pathway is examined further in Table 5.1 below.
- Emissions to groundwater: given the bedrock geology and the presence of karstified bedrock underlying the Proposed Development site there is potential for strong interconnection between surface water and groundwater. The potential for a groundwater pathway to function as an impact pathway is examined further in Table 5.1 below.
- Noise and vibration emissions: Noise and vibration emissions are considered to have the potential to result in negative impacts to biodiversity up to a maximum distance of 300m from the emission source. This distance is based on the maximum disturbance zone of 300m for wetland bird species, as specified by Cutts et al. (2013). Noise and vibration effects for other qualifying species as well as qualifying habitats of European Sites are less than 300m. For kingfisher, the maximum disturbance zone is 100m as per Nature Scotland (2022). For mammal species listed as qualifying features of interest for SACs in the surrounding area this distance is set at a maximum distance of 150m, as per the NRA (2009). For qualifying aquatic species, a potential noise and vibration impact pathway will only arise where works such as piling or blasting are proposed at instream or bankside locations within adjoining SACs. No such proposals form part of the Proposed Development. There are European Sites occurring within 300m of the Proposed Development and the potential for noise and vibration emissions to function as a pathway is examined further in Table 5.1 below.
- Emissions to air: the Proposed Development will have the potential to result in emissions to air. Given the proximity of the Proposed Development to European Sites, the potential for an air emission impact pathway to connect to Proposed Development to European Sites is examined further in Table 5.1 below.
- Light emissions: the proposed development will include for the provision of nighttime lighting during both the construction phase and operation phase. The potential for this lighting to result in a negative effect to European Sites is examined further in Table 5.1 below.
- Visual emissions: Certain qualifying species of European Sites can be sensitive to visual changes in the landscape and visual disturbance as a result of new structures. Examples of species that are sensitive to such disturbance

are waders and wildfowl, namely geese and swans of SPAs in the wider surrounding area. The potential for visual disturbance during the operation phase to result in a negative effect to European Sites is examined further in Table 5.1 below.

- Mobile species pathway: Development projects that are located outside of European Sites can also result in (ex-situ) impacts to mobile qualifying species of European Sites in the event that such species rely on habitats occurring within the Proposed Development site. For the purposes of including such a scenario in the consideration of potential pathways this screening report refers to the reliance of mobile qualifying species of European Sites on the Proposed Development site as a "mobile species pathway". When considering the mobile species pathways for over-wintering special conservation interest bird species and waterbirds the following publications were used to identify their presence within the zone of influence of the Proposed Development:
- For bird species:
    - Scottish Natural Heritage (SNH, now Natural Scotland) guidance document "Assessing connectivity with Special Protection Areas (SPA) (2016) and McGuiness et al. (2015) for a range of waterbirds were used as the principal sources for establishing foraging range distances. Where no distances for certain species are reported in these two sources, the other sources listed below were used.
    - The Bird Foraging Table (version 6th Jan. 2020), prepared for DAFM, Forestry Division, available at https://assets.gov.ie/96741/2601fdba-420a-45da-948a-ac2b5b0babe3.docx
    - Thaxter et al. (2012) for seabirds.
    - Gillings & Fuller (1999) for golden plover and lapwing were used to identify connectivity between the Proposed Development site and SPAs in the wider surrounding area.
- For otters: a mobile species pathway was examined with respect to the presence/absence of suitable habitat for this species occurring within the Proposed Development site.
- Disturbance pathway: Human disturbance, ex-situ of a Proposed Development site, to a European Site is representative of an indirect impact arising as a result of land use activities generated by a project. An example of such an indirect impact is an increase in human presence and associated pressures within a European Site. New developments in areas outside of, but proximate to European Sites, can result in an increase in the presence of people within European Sites, such as for recreational activities. The potential for the Proposed Development to result in increased levels of human activity within surrounding European Sites is considered as a potential impact pathway under Table 5.1 below.

In order to identify a list of European Sites in the wider area surrounding the Proposed Development site that require examination for pathway connectivity a variety of distance criteria were used to establish a preliminary list of European Sites to be considered. With respect to SACs, the criteria that requires examination of SACs over the greatest distance is the surface water catchment criteria. As such all SACs occurring within the Boyne surface water catchment have been included in the preliminary list of SACs to be considered. The location of these European Sites with respect to the Proposed Development is shown on Figure 4.1.

With respect to SPAs, the preliminary list of SPAs that require to be considered for pathway connectivity is based upon the foraging distance threshold of special conservation interest bird species, as set out in the publications referred to above. The maximum threshold distance quoted by SNH (2016) for non-breeding season foraging distance is 25km. Considering the extent and volume of the Proposed Development, as well as the proximity of the River Boyne to the development site, a Zone of Influence (ZoI) of 15 km was used (see Figure 4.1). Consequently, 7 European sites occur within this 15 km ZoI, encompassing 3 Special Areas for Protections (SPAs) and 4 Special Area of Conservation (SACs) (See Table 4.1)

4.3.1 Identification of European Sites in the ZoI

The following European sites were identified to occur within the 15km ZoI.

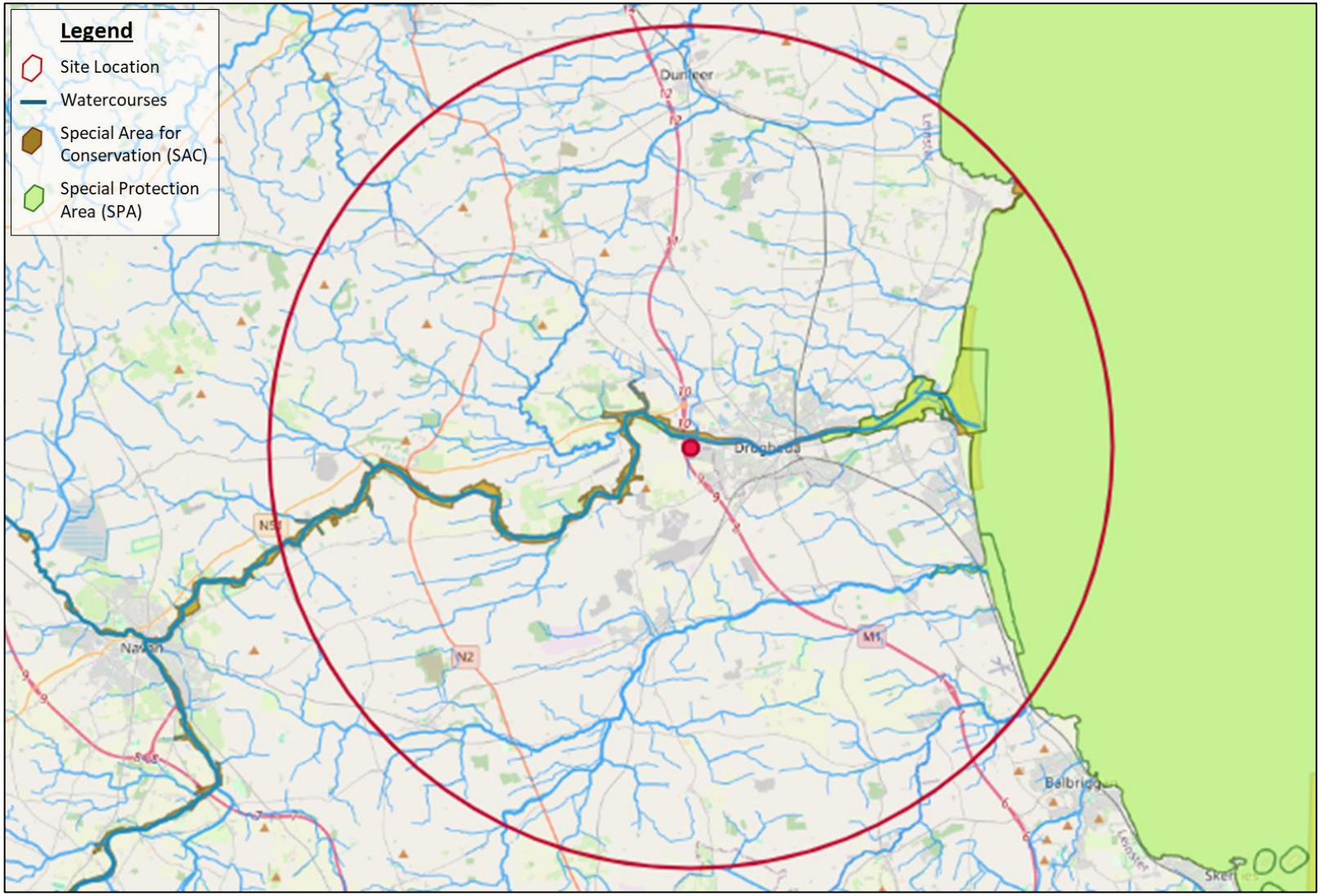
Table 4.1 Details of Habitats and / or Species identified for European Sites within the 15km ZoI.

European Site	Habitats / Species	Connectivity to Development Site
River Boyne and River Blackwater SAC (002299) & Boyne River Islands pNHA	1099 River Lamprey (*Lampetra fluviatilis*) 1106 Salmon (*Salmo salar*) 1355 Otter (*Lutra lutra*) 7230 Alkaline fens 91E0 Alluvial forests with *Alnus glutinosa* and *Fraxinus excelsior* (*Alno-Padion, Alnion incanae, Salicion albae*) *	Hydrological -Yes (Overlap) Air – Yes (Overlap) Land – Yes (Overlap) Mobile Species - Yes
Boyne Coast and Estuary SAC (001957) & Boyne Coast And Estuary pNHA	1130 Estuaries 1140 Mudflats and sandflats not covered by seawater at low tide 1210 Annual vegetation of drift lines 1310 Salicornia and other annuals colonising mud and sand 1330 Atlantic salt meadows (*Glauco-Puccinellietalia maritimae*) 2110 Embryonic shifting dunes 2120 Shifting dunes along the shoreline with Ammophila arenaria (white dunes) 2130 Fixed coastal dunes with herbaceous vegetation (grey dunes) *	Hydrological -Yes (> 4 km) Air – No (> 4 km) Land - No Mobile Species- No
Clogher Head SAC (001459)	1230 Vegetated Sea cliffs of the Atlantic and Baltic coasts 4030 European dry heaths	Hydrological -Yes (> 10 km) Air - No Land - No Mobile Species- No
River Boyne and River Blackwater SPA (004232)	A229 Kingfisher (*Alcedo atthis*)	Hydrological -Yes (< 1 km) Air – Yes (< 1 km) Land - No

		Mobile Species - Yes
Boyne Estuary SPA (004080)	Wetlands A048 Shelduck (*Tadorna tadorna*) A130 Oystercatcher (*Haematopus ostralegus*) A140 Golden Plover (*Pluvialis apricaria*) A141 Grey Plover (*Pluvialis squatarola*) A142 Lapwing (*Vanellus vanellus*) A143 Knot (*Calidris canutus*) A144 Sanderling (*Calidris alba*) A156 Black-tailed Godwit (*Limosa limosa*) A162 Redshank (*Tringa totanus*) A169 Turnstone (*Arenaria interpres*) A195 Little Tern (*Sterna albifrons*)	Hydrological -Yes Air – No (> 4 km) Land - No Mobile Species - Yes
River Nanny Estuary and Shore SPA (004158)	Wetlands A130 Oystercatcher (*Haematopus ostralegus*) A137 Ringed Plover (*Charadrius hiaticula*) A140 Golden Plover (*Pluvialis apricaria*) A143 Knot (*Calidris canutus*) A144 Sanderling (*Calidris alba*) A184 Herring Gull (*Larus argentatus*)	Hydrological -Yes (> 10 km) Air – No (> 5 km) Land - No Mobile Species- No
North-West Irish Sea SPA (004236)	A001 Red-throated Diver (*Gavia stellata*) A003 Great Northern Diver (*Gavia immer*) A009 Fulmar (*Fulmarus glacialis*) A013 Manx Shearwater (*Puffinus puffinus*) A017 Cormorant (*Phalacrocorax carbo*) A018 Shag (*Phalacrocorax aristotelis*) A065 Common Scoter (*Melanitta nigra*) A177 Little Gull (*Larus minutus*) A179 Black-headed Gull (*Chroicocephalus ridibundus*) A182 Common Gull (*Larus canus*) A183 Lesser Black-backed Gull (*Larus fuscus*) A184 Herring Gull (*Larus argentatus*) A187 Great Black-backed Gull (*Larus marinus*) A188 Kittiwake (*Rissa tridactyla*) A192 Roseate Tern (*Sterna dougallii*)	Hydrological -Yes (9 km) Air – No (> 5 km) Land - No

	A193 Common Tern (*Sterna hirundo*) A194 Arctic Tern (*Sterna paradisaea*) A195 Little Tern (*Sterna albifrons*) A199 Guillemot (*Uria aalge*) A200 Razorbill (*Alca torda*) A204 Puffin (*Fratercula arctica*)	Mobile Species- Yes

Figure 4.1 European Sites within the 15km ZoI.



5 ASSESSMENT OF LIKELY SIGNIFICANT EFFECTS TO EUROPEAN SITES AND THEIR RELEVANT QUALIFYING INTERESTS

The potential environmental effects generated by the Proposed Development that could result in likely significant effects to European Sites relate to surface water and/or groundwater emissions to the River Boyne; noise and vibration emissions; air emissions; mobile species pathways and the potential for human disturbance pathways.

5.1 Surface Water & Groundwater Emissions

Surface water generated during the construction phase will ultimately be discharged to the River Boyne. Given that there are no surface water features, such as rivers, streams or surface drains, at or surrounding the Proposed Development site, surface water generated during the construction phase will drain to ground. Potentially contaminating materials, such as hydrocarbons, cement-base materials, silt, and other construction-related solutions will occur on site during the construction phase and will have the potential to become entrained in and pollute surface drainage waters generated on site. Given the presence of karstified bedrock underlying the Proposed Development site the possibility of contaminated surface drainage waters discharging to groundwater flows cannot be ruled out at the screening stage without further examination.

During the operation phase surface water will be generated from areas of hard standing that will accommodate dwellings and car parking. In the event of fuel leaks or accidental spill the potential will exist for the generation of contaminated surface waters on site and for these surface drainage waters to be discharged to the River Boyne via the proposed surface water infrastructure.

While it is acknowledged that the volume of drainage waters discharging from the Proposed Development site to the River Boyne will be miniscule in the context of this receiving waterbody and the wider SAC, in the absence of appropriate safeguards the potential will exist for the discharge of pollutants that could further perturb water quality. As noted in Section 4 the water quality status of the transitional waters of the River Boyne to the north of the Proposed Development site is already classed as Moderate (i.e. less than good status) and at risk, with nutrient and organic pollution representing significant issues impacting the transitional waters of the lower River Boyne and the Boyne Estuary. The discharge of polluted surface drainage waters from the Proposed Development site to the River Boyne will have the potential to combine with other existing water quality pressures to this river and this section of the River Boyne and River Blackwater SAC downstream as well as the Boyne Coast and Estuaries SAC and the Boyne Estuary SPA and exacerbate the ongoing perturbations and pressures to water quality (NPWS, 2014).

Even in the event that the uncontrolled release of contaminated surface drainage waters become rapidly diluted and distributed within the River Boyne, any deposition of contaminants such as hydrocarbons and other chemicals associated with the construction phase could contribute to perturbations to water quality and conditions for features of interest along and downstream of this river and undermine the European Site conservation objectives to maintain or restore favourable conservation condition.

In light of the above, it is considered that, in the absence of further detailed examination and appropriate safeguards, it cannot be objectively ruled out that the Proposed Development will not have the potential to release contaminants to the River Boyne and contribute to undermining the status of qualifying habitats and qualifying species downstream and within the River Boyne and River Blackwater SAC, Boyne Coast and Estuaries SAC and the Boyne Estuary SPA. In addition, any potential to contribute towards a diminution of water quality within the River Boyne to the north of the Proposed Development site will have the potential to undermine habitat conditions of kingfisher and the conservation objectives of the River Boyne and River Blackwater SPA.

5.2 Wastewater emissions

Wastewater will be generated during the operational phase of the Proposed Development and this wastewater will be conveyed via a pumping station and sewerage pipelines to the Drogheda Wastewater Treatment Plant (WwTP). Wastewater treated at this WwTP will be discharged to the Boyne Estuary. This discharge establishes another hydrological connection between the Proposed Development site and the European Sites occurring at the Boyne Estuary. However, wastewater emissions are not considered to represent a potential risk to water quality at the Boyne Estuary due to the presence of the existing Drogheda WwTP, which has been identified over multiple monitoring years (as set out in Annual Environmental Reports (AERs) for this plant) as not having a negative effect on surface water quality of the receiving Boyne Estuary and aquatic environment. Furthermore, Irish Water have provided confirmation that sufficient capacity is available at the Drogheda WWTP to adequately treat all wastewater generated during the operational phase of the Proposed Development.

All wastewater generated at the Proposed Development site during the construction phase will be contained within impermeable portaloo tanks which will be subject to routine maintenance during construction works. All wastewater held in portaloo tanks will be conveyed offsite by a licenced operator for treatment at a suitably licenced wastewater treatment plant.

5.3 Noise emissions

The construction phase of the Proposed Development will involve the construction of new structures on site and the operation of plant and machinery. The Proposed Development has the potential to generate noise during construction works and such noise could potentially result in disturbance to kingfisher and otters along the River Boyne to the north of the Proposed Development site. Noise will also be generated during the operational phase of the Proposed Development as a result of ongoing activities on site.

5.4 Air emissions

The construction phase of the Proposed Development will involve the construction of new structures on site and the operation of plant and machinery. The Proposed Development has the potential to generate emissions to air (e.g., dust) during construction works and such emissions could potentially result in negative impacts to the freshwater habitats of the river. Operational phase use of the Proposed Development site as a residential housing estate will not pose a risk of

negative emissions to air and will not have the potential to result in air emissions with the potential to result in deleterious effects to freshwater habitats of the River Boyne.

5.5 Mobile Species Pathway

In the event that the Proposed Development site functions as a terrestrial habitat for special conservation interest bird species of the five SPAs occurring within the zone of influence of the Proposed Development, it will have the potential to result in the loss of foraging habitat for these species. A Natura Impact Statement will be required to examine whether the site of the Proposed Development and immediate surrounding landscape offers suitable terrestrial habitats currently utilised by bird species listed as QIS within nearby Natura 2000 sites.

5.6 Human Disturbance Pathway

The operation phase of the Proposed Development will result in an increase in the human population within the immediate vicinity of the River Boyne and the freshwater habitats of this river that are relied upon by otters and kingfisher. Other human activities have been identified as an existing threat/pressure to the status of the River Boyne and River Blackwater SAC and an increase in human population will have the potential to contribute towards disturbance to these species. A Natura Impact Statement is required to examine the potential for this effect to arise as a result of the Proposed Development.

5.7 In-Combination Effects

In the absence of appropriate safeguards the Proposed Development will have the potential to generate polluted surface waters and groundwaters on site and in the event of their discharge from the Proposed Development site to the River Boyne, the potential will exist for the Proposed Development to combine with any other existing sources of pollutants or pressures to water quality of the River Boyne, as discussed in Section 3 above, and result in the discharge of polluted water to this river. In the event of the discharge of contaminated waters from the Proposed Development site to the River Boyne, such contaminated water will have the potential to combine with the existing sources of pressures to the water quality of the River Boyne to result in negative cumulative impacts to the water quality and status of the lower transitional waters of the River Boyne and the River Boyne and River Blackwater SAC. The discharge of such contaminated waters downstream will also have the potential to combine with existing pressures to the status of the Boyne Estuary and contribute to cumulative negative impacts to the Boyne Estuary European Sites.

Furthermore, in the event that other projects and/or existing land uses occurring within the vicinity of the Proposed Development site have the potential to result in negative impacts to the River Boyne European Sites and the Boyne Estuary European Sites, then the Proposed Development will have the potential to combine with these to result in cumulative negative effects to these Sites.

Table 5.1 Summary of Assessment of Likely Significant Effects through Surface Water, Air and Land Pathways.

European Site	Pathway	Potential for Significant Effects?
River Boyne and River Blackwater SAC (002299) & Boyne River Islands pNHA	Hydrological	Yes
	Air	Yes
	Land	Yes
	Mobile Species	Yes
Boyne Coast and Estuary SAC (001957) & Boyne Coast and Estuary pNHA	Hydrological	Yes
	Air	No
	Land	No
	Mobile Species	No
Clogher Head SAC (001459)	Hydrological	No
	Air	No
	Land	No
	Mobile Species	No
River Boyne and River Blackwater SPA (004232)	Hydrological	Yes
	Air	Yes
	Land	No
	Mobile Species	Yes
Boyne Estuary SPA (004080)	Hydrological	Yes
	Air	No
	Land	No
	Mobile Species	Yes
River Nanny Estuary and Shore SPA (004158)	Hydrological	No
	Air	No
	Land	No
	Mobile Species	No
North-West Irish Sea SPA (004236)	Hydrological	Yes
	Air	No
	Land	No
	Mobile Species	Yes

6 SCREENING STATEMENT CONCLUSION

The Proposed Development has been screened for its potential to result in likely significant effects to surrounding European Sites. The Proposed Development overlaps within the boundary of the River Boyne and River Blackwater SAC, whilst other European Sites are located in the wider surrounding area. A Source-Pathway-Receiver model was used to identify potential impact pathways linking the Proposed Development site to European Sites. A total of 7 European sites were examined for their occurrence within the zone of influence of the Proposed Development, and included:

- River Boyne and River Blackwater SAC
- Boyne Coast and Estuary SAC
- Clogher Head SAC
- River Boyne and River Blackwater SPA
- Boyne Estuary SPA
- River Nanny Estuary and Shore SPA
- North-West Irish Sea SPA

These were identified as occurring within the zone of influence of the Proposed Development and exhibited either hydrological, air, or land pathways and / or contained highly mobile species (e.g., birds or anadromous fish). The potential for impacts to otters, qualifying freshwater fish and kingfishers, Alluvial woodland, and estuarine habitats, have also been identified as a possible effect of the Proposed Development that cannot be ruled out at the Screening stage. In addition, the potential for the Proposed Development site to function as a terrestrial habitat for relevant special conservation interest bird species listed above cannot be ruled out at the screening stage.

It has been found during this Screening, which has been completed with a high degree of conservatism and precaution, that the potential for the Proposed Development to result in negative effects to the conservation objectives of several of the European Sites listed above cannot be ruled out at the screening stage.

For the reasons outlined above it is the considered view of the authors of this Screening Report for Appropriate Assessment that the potential for likely significant effects to European Sites cannot be ruled out at the Screening stage and that an Appropriate Assessment of the Proposed Development is required. Specifically, the River Boyne and River Blackwater SAC, Boyne Coast and Estuary SAC, River Boyne and River Blackwater SPA, Boyne Estuary SPA, and North-West Irish Sea SPA will be carried through into the Natura Impact Statement (NIS) for further assessment of the potential for the Proposed Development to result in adverse effects to the integrity of the above listed European Sites, alone or in-combination with other plans or projects.

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